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Transformation of the Supplier System Formulation of the Isolated-Type System

This chapter examines empirically how the isolated-type supplier system was established in China's motorcycle industry, using the framework presented in Chapter 1. As a whole, this chapter provides examples of the assumption, presented in the Introduction, that latecomers are likely to formulate isolated-type supplier systems when minor-change competition among many homogeneous firms is continuously launched in an immature market.

In the following three sections, the case of Jialing, firstly, demonstrates that in China, large state-owned makers carrying the weight of expectations for the rapid localization of imported technologies adopted united-type supplier systems starting in the 1980s, which then changed to isolated-type systems as they rapidly pursued mass production in the early 1990s. Then, the case of Qingqi shows that, due to the lack of formal and informal institutions guaranteeing rules for market transactions, opportunistic behaviors accelerated the formation of an isolated-type system of mal-discipline. Finally, the case of Zongshen demonstrates, despite all this, that a new type of maker emerged that pursued further development by establishing their own rules and promoting well-disciplined cooperation with suppliers.

I. Why Was the “Complex” Dissolved? The Case of Jialing

In 1991, a policy was launched to establish a number of large-scale business groups by consolidating related firms into a “national team.” Jialing was designated as one of the fifty-five firms for the first-batch model case. One of the main goals the government hoped to achieve from the “national teams” was that they would absorb the latest technologies through import substitution, acquiring their own technologies and product development capabilities, and eventually becoming business groups capable of competing against global giants.¹

However, it was a difficult goal to accomplish, in view of the overwhelming strength in technological, capital, and marketing capabilities held by dominant global firms at the time. Even today, a few years past 2000, there are very few cases where firms even in the NIEs, let alone among China's "national teams," have successfully caught up with their counterparts in developed countries in various aspects (Amsden 2001, Nolan and Jin 2002). Up until the first half of the 1990s, the difficulties were not considered seriously by either the firms or the government. This was so because their immediate goal was to localize imported vehicle models in a protected domestic market and to satisfy the demand for these models through mass production. It was not through international competition but rather through competition with new types of firms in the domestic market in the middle of the 1990s that these difficulties were seriously revealed.

The localization and mass production of motorcycles, involving a wide spectrum of factor technologies, could hardly be achieved by Jialing alone, and needed to be addressed in a united manner by a huge number of suppliers. One portion of the supplier system it established in the 1980s, Jialing Motorcycle Economic Complex (hereafter the "complex"), was a typical united-type system. However, in the early 1990s, the relationship was dissolved, and the system was transformed into an isolated-type one.

This section, by analyzing the process of this transformation, examines the inherent difficulties faced by Chinese firms in upgrading their technological capabilities through united-type supplier systems.

1. Reverse Engineering and Honda's Support for Mass Production

(1) Reverse Engineering in the Earliest Period: The CJ50

Jialing began producing motorcycles in 1979, by reverse engineering Honda's two-stroke 50 cc moped (PA50). Imported motorcycles were disassembled, and the parts were measured to develop design drawings. Dies, molds, jigs, measuring instruments, and specific processing equipment were produced in-house, with Jialing completing prototype trials in five months (Zhang 1995, pp. 33–34). For parts that were difficult to produce in-house, Jialing relied upon thirty-four outside factories specializing in those spheres.² The product was named the CJ50.

In the same year, the firm produced 55 units of the model and launched sales in Beijing and Shanghai, attracting attention from propaganda organs, and subsequently a rush of orders. In the following year, 2,500 units were produced, but this was far from sufficient to meet the incoming orders. At first, Jialing had neither the technologies nor organization to implement full-fledged mass production. This could be inferred from the fact that it quickly sought support from Honda. For the purpose of examining its technological capability at that time, let us look at the content of the technical cooperation arrangements acquired from Honda at that time (See Table 5-1).

(2) The Establishment of a Mass Production System with Honda's Support

Toward the end of 1981, Jialing entered into a technical cooperation contract with Honda for technological improvement of the CJ50 and for the establishment of a

TABLE 5-1

TECHNICAL COOPERATION CONTRACTS BETWEEN JIALING AND HONDA IN THE 1980s

First technical cooperation contract, 1981
1. Jialing purchased four parts including piston rings and valve springs, six pieces of motorcycle measurement and testing equipment and two specialized precision processing machines from Honda.
2. Honda provided support for the improvement of the CJ50 to a product of “international level.”
3. On the basis of the above, the two parties jointly developed new models suitable to China.
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Second technical cooperation contract, 1983
1. Jialing purchased production technology of 70–145 cc class motorcycles from Honda, starting with the JH70 (based on Honda’s CD70)
2. Honda provided support for Jialing’s construction of an engine production line (parts processing and assembly) of 600,000 units per year. Jialing purchased 77 major pieces of equipment from Honda.
.....
Third technical cooperation contract, 1989
Honda provided support for Jialing’s development and production of 125cc models (based on Honda’s XL125 with the CB125S engine).

Sources: ZMGB (1995), Zhang (1995), Yamaguchi (2005), and the author’s interviews with Jialing and Honda.

modern mass production system. Since it had no in-house testing equipment, Jialing had Honda’s research institute in Japan evaluate its finished vehicle and important parts of the CJ50, and from 1983, based on the outcome, it implemented technological renovations on 146 items including the engine, driving system, and electrical system, instituting brand-new standards in design, production technology, and quality management. Starting in 1982, it purchased basic test equipment from Honda,³ while gradually localizing important parts purchased from Honda. In 1988, all the parts were finally localized (ZMGB 1995, pp. 66–67).⁴

With regard to the introduction of new models, the JH70 (based on the CD70) was launched using the CKD (complete knock-down) method. At the same time, the localization of its parts began methodically and 90 percent localization was attained by 1989 (ZMGB 1995, pp. 66–67). The rapid formation of mass production capability was pursued by introducing state-of-the-art equipment, and in 1986, an engine factory was constructed. It was one of the largest in the world at that time, capable of producing 600,000 units annually.⁵

According to a Honda employee in charge of negotiations with Jialing, in 1983, when the contract was negotiated, Jialing had an annual production figure of only 100,000 or more units, but it initially asserted that it would build a factory capable of processing engine parts for 1.2 million units. Honda recommended that it build a factory capable of processing multi-model engines of a moderate size, closer to the actual production level. Eventually, the parties agreed to build a factory with the capacity to produce 600,000 units and capable of processing three types of engines. Jialing, apparently showing little interest in the depreciation of investments and foreseeable equipment obsolescence resulting from technological changes, wanted to “save as much production capability as possible.”⁶

By the beginning of the 1990s, Jialing was making attempts to develop its own models. These were minor-change models of the CJ50, and were received favorably by the market.⁷ For the CJ50, it seems that the firm, having acquired a technological level of proficiency through reverse engineering, was able to smoothly implement minor changes chiefly by renovating the bodywork. Meanwhile, no development project was undertaken for a totally new product, starting with the engine and other major parts, and the firm was entirely dependent upon Honda for its brand-new models.

Judging from the above, it is clear that Jialing, from the mid-1980s to the early 1990s, was paying as much attention as it could afford to pursuing a rapid expansion of mass production capability for existing models, and that its own product development capability remained underdeveloped.

2. Formation of the “Complex”

Jialing was able to sharply increase its production with the support of a supplier system it organized independently. In 1980, it produced less than 3,000 units, and it was concluded that a 17-million-yuan investment and three years would be necessary to establish a system capable of producing 100,000 units (Zhang 1995, p. 39). However, Jialing by itself could not afford this either financially or technologically, and it sought support from its suppliers.

(1) Composition of the “Complex”

In 1980, Jialing decided to establish a “complex”⁸ together with five suppliers who all began manufacturing motorcycle parts for the first time. Five firms (two in engine assembly, one for engine-parts casts, one for clutches, and one for wheels) were in different administrative lines from Jialing and they participated in the “complex” as a means to survive, as they were suffering from unfavorable business performance.⁹ The members of the “complex” increased from the initial five in 1980 to thirteen in 1990.¹⁰

Jialing purchased parts from as many as 250 or so suppliers in the early 1990s (Zhang 1995, p. 190), and parts purchasing was not necessarily limited to the “complex.” The functional difference between the members of the “complex” and other suppliers was, according to an interview by the author, that the former were exemplary suppliers, who carried out the manufacturing and development of the most important parts. Jialing used other suppliers¹¹ for the sake of competition even for parts produced by “complex” members. However, in the development of new products (i.e., localization), the members were given assignments on a preferential basis and usually received a higher share of orders from Jialing even after the launching of mass production.

(2) Cooperative Activities of the “Complex”: Risk Sharing and Capability Nurturing

The transaction relationship within the “complex” can be characterized by “goal cost management,” “second distribution of profits,” and a “reserve fund.” Firstly, in view of the market conditions, a goal cost for the motorcycle to be developed was determined. Next, based on the goal cost as well as the technologies and raw materials

of each firm, the prices of the parts were determined. All profits obtained by the rationalization efforts of an individual firm were returned to it, while any losses were also borne by it ("goal cost management"). The total profits earned by Jialing after sales were redistributed pro rata to each firm in accordance with costs (second distribution of profits). Further, a certain percentage of the profits for second distribution (10 percent when the "complex" began) was allocated as a "reserve fund" to be loaned at low interest rates when a cash-strapped member needed to make investments into equipment for technological upgrading. As of 1990, the reserve fund amounted to over 3 million yuan, of which more than 2 million yuan was on loan to eight member firms (ZMGB 1955, pp. 71–72).

These successive transactions with fixed members continued for over ten years. Let us now consider what necessitated the establishment of such a system and why it could be maintained.

For Jialing, the most significant purpose for establishing the "complex" was to develop mass production capability, and the role of the members was to jointly bear the investment costs. In this sense, the "complex" had a powerful effect.¹²

The fixed relationship within the "complex" seems to have enabled Jialing to nurture the capabilities required of suppliers. The assignments given to the members were to localize parts imported chiefly from Honda using the CKD method. Many of the members initially lacked design capability, and their most important goal was to learn to manufacture precisely in accordance with the drawings supplied by Jialing. According to the firms surveyed, nurturing could not be achieved without a somewhat fixed relationship. At the time, many suppliers wanted to join the "complex," but it was extremely difficult due to the strict entry criteria. They were attracted by the stable orders from Jialing and the opportunities for development.¹³

To draw forth the commitment of the members, Jialing undertook all or some part of the transaction-specific investment of suppliers, provided financial support to troubled firms, and gave technological support. This constituted the payment of the cost of providing insurance and nurturing ("supplier development"), as we saw in Chapter 1.

Initially, many of the "complex" members were stagnant and money-losing firms, and Jialing extended financial support to them when they joined.¹⁴

With regard to the provision of insurance, the following example was cited (Zhang 1995, pp. 41–43): In the beginning of 1983, at a meeting of the "complex" to decide on the purchase prices of parts, one money-losing clutch supplier demanded a three-yuan increase of the unit price for clutches. The goal cost for the product as a whole had already been determined, so the other suppliers cried foul, as a higher price for clutches would necessarily lead to lower prices for other parts. The meeting erupted into turmoil, and Jialing, fearing the disintegration of the "complex," raised the purchase price for clutches, but agreed to bear two-thirds of the cost for the price hike by itself, and to have the remaining third offset by a reduction in purchasing prices from other suppliers. This indicates that Jialing redistributed the risks among suppliers, and occasionally absorbed risks itself.

Furthermore, Jialing gave priority to the members in the allocation of new product development projects, and provided them with technological guidance by dispatching

engineers. However, it was also in the process of learning technology from Honda, and it did not necessarily have a technological advantage vis-à-vis suppliers. It supplied drawings, work/quality standards, and production management know-how it had acquired from Honda. Honda also provided direct technical guidance to a portion of its important suppliers.

On the other hand, it restricted the activities of its suppliers. It demanded that suppliers deliver 100 percent of their products to it, and if parts were sold to rival makers, it threatened suppliers with possible expulsion from the “complex.”¹⁵ It did not want the parts produced using Honda’s drawings to be exploited by rival makers, and suppliers had no choice but to obey because of the oligopolistic order volume of the firm at that time.

3. Dissolution of the “Complex”: Disappearance of Mutual Merits

The “complex” was disbanded around 1993. Around that time, Jialing discontinued its “goal cost management,” replacing it with a competitive bidding system, and it abolished the second distribution of profits among the members. Along with this, it began diversifying its suppliers, who, at the same time, increased their sales to other makers. In other words, the transaction organization changed in nature from a united-type one to something closer to an isolated-type one. It appears that the fixed relationship of the “complex” stopped generating rent for both Jialing and the members. Let us look at how this occurred, in view of the framework examined in Chapter 1.

(1) The Disappearance of Suppliers’ Merits: Diminishing “Effect of Commitment Acquisition”

The disbandment of the “complex” was partly caused by the diminished “effect of commitment acquisition” for the suppliers. This is exemplified by the sale of engines produced by firm *h*, which is said to have been an important trigger for the disbandment of the “complex.”

In the latter half of the 1980s, the makers, based on bullish business forecasts, introduced massive amounts of new equipment, but in reality the demand turned out to be so weak that sales in the beginning of the 1990s were lower than the 1985 level.¹⁶ Given this situation, they began to experience surplus production capability. In particular, orders to the three engine suppliers producing 50 cc engines stopped growing, as Jialing focused on the 70 cc engine as a main product, and began in-house production in the maker’s newly built state-of-the-art factory. In other words, for suppliers, “profits from transactions” with Jialing declined.

In 1988, engine supplier *h*, one of the three suppliers and a large-sized maker of military communication devices, used its engineering capability to develop a 90 cc engine, applying minor changes to the JH70 engine. It proposed that Jialing develop a new model using the engine it had produced, but the plan was not adopted by the maker, which instead began to keep a close eye on the supplier to make sure it was not carrying out transactions with other makers.¹⁷ Supplier *h* clearly had too much capability, both in terms of mass production and development.

About this time, new makers began carrying out minor changes on the JH70 in the coastal region, and the number of officially registered makers increased from twenty-two in 1980 to ninety in 1988. With the increased “substitutability of transaction partners,” supplier *h*, around 1993, began selling its 90 cc engine to these new makers. Minor change competition began around this time throughout China.

In addition to *h*, other suppliers that were bound by Jialing but equipped with product development capabilities began to carry out transactions with new makers by the mid-1990s. The industry as a whole was reaping soaring profits and the second distribution of profits provided by Jialing was no longer attractive. Jialing’s investment into nurturing was limited. Its support for capability upgrading did not go beyond such capabilities as producing parts exactly as specified in drawings, and no arrangements were made for the suppliers after the model became obsolete.

(2) Disappearance of the Merit for Jialing: Decrease of the “Effect of Rent Acquisition”

The “effect of rent acquisition” for Jialing also decreased. According to the suppliers, the disbandment of the “complex” was due to the fact that Jialing increased its purchases of parts from other suppliers than “complex” members in expanding its production volume, and the members, by selling their products to Jialing alone, were no longer able to fill their production capability. Rather than giving priority to the members, Jialing began substituting transactions with other suppliers.

The biggest reason for this was that many suppliers had grown in and around Chongqing. In that area, large state-owned makers such as Jianshe and Wangjiang Machinery Manufacturing Works also nurtured publicly owned suppliers of their own during the 1980s, and in the first half of the 1990s, a large number of privately owned suppliers began to emerge (See Section III of this chapter).

Given these circumstances, some of the members of the “complex” suffered from a relative decline in performance. For example, in the first half of the 1980s, in Chongqing, only a limited number of large-sized state-owned firms possessed technology and equipment for aluminum die casting and mold manufacturing, and firm *g*, which belonged to the ordnance industry line, was in charge of these parts in the “complex.” In the 1990s, however, private suppliers began to enter the market, purchasing molds from private mold manufacturers rising in the coastal region. Meanwhile, supplier *g* failed to achieve corporate reform in a timely fashion, and consequently lost the ability to meet Jialing’s demands.¹⁸ Compared with new suppliers, the “capability upgrading potential” of the existing suppliers declined in relative terms.

What was more significant was the impetus for Jialing to quickly expand the production scale of its existing models to deal with the rapid expansion of the market. Consequently, it adopted a purchasing policy to conduct quality management by driving many suppliers to compete against each other, thereby imposing pressure on them. The capability of mass production and quality control for existing parts demanded from suppliers was no longer worth the cost of nurturing suppliers in the first half of the 1990s. These are capabilities that are highly likely to be exploited by competitors and it is conceivable that the “effect of rent acquisition” generated by

supplier nurturing costs declined for Jialing in the 1990s, when it was not active in new model development.

4. Difficulties Involved in Exploiting the United-Type System

The cases described above demonstrate the difficulties that firms with poor firm-specific competitive advantage (in this case, technological knowledge for product differentiation) face in exploiting and maintaining a united-type system in the midst of fierce price competition among many homogeneous rivals. In the 1980s, state-owned makers clearly had a relative advantage, since they were protected from foreign makers by government policy, and because private firms not yet developed. The united-type system was effective in the phase when makers were in a powerful position vis-à-vis suppliers. However, what Jialing nurtured, based upon this, was the capability to manufacture parts exactly as specified in drawings, and mass production capability. The technological capability of the maker and its suppliers had not reached the level where they could exploit firm-to-firm cooperative activities for more qualitative product differentiation.

In the 1990s, as a result of the massive new entries and the burgeoning low-end market, which may be described as Chinese characteristics, full-fledged minor change competition was launched in the industry across the board. Jialing, whose position declined in relative terms vis-à-vis both suppliers and private makers, neither had any need nor the ability to maintain a united-type system in pursuing the rapid expansion of production scale, and the system changed into an isolated-type one. As far as Jialing is concerned, the policy to nurture a “national team” equipped with proprietary technological and product development capabilities through close interfirm cooperation existed only in name.

Jialing reduced its production sharply from 1997, putting the mass production-oriented transaction relationship into turmoil. Hasty expansion had brought quality problems, and the maker began to seek to reform the transaction system by discontinuing transactions in 1998 with over seventy suppliers, with whom it had maintained long-term relationships.¹⁹

In the preceding chapter, the author described Jialing’s supplier system as an isolated-type, mal-disciplined one, which may have characteristic of a transition period after the united-type system dissolved and before the new system became stable.

II. The Mal-disciplined Transaction Relationship as a Result of Risk Shifting: The Case of Qingqi

In Chapter 4, I have described the situation in the second half of the 1990s, where mal-disciplined transaction rules and opportunism were rampant, but this is not necessarily characteristic of an isolated-type system. The author considers this to be a fluid situation that emerged in the transition economy, as a result of the immaturity of various institutions supporting smooth market transactions, and from opportunistic

behaviors taking advantage of this immaturity. The author sees this as a phenomenon where a decline of “transaction credibility” caused a reduction in the commitment of suppliers, in turn facilitating the supply of compatible parts in the market and increasing the “substitutability of transaction partners,” and driving the system to be increasingly isolated. As a typical case, Qingqi’s supplier system is examined in this section.

1. Difficulties Caused by the Policy for Excessive Expansion

From 1997 to 1999, Qingqi was China’s top maker in terms of the number of units producing, outperforming Jialing. In 1999, it was one of the thirteen “excellent firms” designated for the second batch of “technological innovation pilot enterprises”²⁰ from throughout the country. In 2000, however, its business performance plunged (Chapter 2, Figure 2-5). This happened because several problems that had been hidden in the second half of the 1990s came to the fore.

(1) Qingqi’s Weakness, and Fund-Raising Utilizing a Cosmetic Image

Qingqi, the oldest motorcycle maker in China, came to the brink of bankruptcy in the mid-1980s, when its conventional models held over from the planned economy era became obsolete in the market. In 1986, it received technological support from Suzuki and launched the CKD production of 50 cc scooters, which put it into a growth orbit. It followed the same path as Jialing, in that it introduced design drawings and production equipment from Suzuki, and pursued the localization of major parts (ZMGB 1995, pp. 78–80; Interview with Qingqi). What was different was that Qingqi introduced a small two-stroke engine scooter.²¹

Qingqi, along with Jialing, achieved a rapid expansion of production in the first half of the 1990s, but its major products were small scooters designed for urban areas and its market was concentrated in Shandong Province, particularly Jinan City, where it is located (ZQGNB, various years; interview with Qingqi). Province-wise, Shandong is China’s biggest motorcycle market, and Qingqi, by dominating that market, gained an advantage over its rivals. However, in the mid-1990s, the shift to four-stroke engines became clear in the entire market, and in the meantime, regulations against new purchases of motorcycles were gradually implemented in big cities. For Qingqi, the model shift and the cultivation of markets outside Shandong became pressing problems.

In hindsight, Qingqi failed to overcome this challenge. Its newly released four-stroke 125 cc model, produced with the support of Suzuki, did not sell well due to its high price, and sales plunged as the full-fledged application of the regulations against new purchases in big cities took effect. In 2001, the number of sales dropped to less than half of the level two years earlier.

The unfavorable sales performance was also to a significant degree due to the deterioration of the firm’s ability to find financing in the market, as a result of revelations of its hidden cumulative debt. It was revealed that Qingqi Group had engaged in “improper” financing using Jinan Qingqi Motorcycle Co., Ltd. (hereafter, Jinan Qingqi), one of its subsidiaries and a listed company, and that its investment had failed.²²

Jinan Qingqi, the core production base of the Qingqi Group, may be adequately described as a “factory,” since it essentially had no independent managerial authority, as its parts and materials were purchased through Qingqi’s purchasing department and its sales were conducted through Qingqi’s sales department. Partly because Qingqi became the industry leader in terms of production quantity in the middle of the 1990s, Jinan Qingqi’s share price was favorable. The parent firm then had Jinan Qingqi issue new stocks, and used the money raised to make strategic group investments. The money was absorbed by Qingqi (the sales department) in the form of nonpayments for motorcycles owed to Jinan Qingqi. These nonpayments came to more than 2 billion yuan (about U.S.\$240 million) in 2000, while the sales of Jinan Qingqi of the same year were just 530 million yuan.

(2) The Formation of an Enterprise Group and Making Suppliers into Subsidiaries

Qingqi, as an enterprise group, actively retained joint-venture affiliates under its control in the motorcycle industry, maintaining over seventy productive affiliated firms domestically as of 1998.²³ The challenges Qingqi faced in the 1990s, namely the model shift and the expansion of sales channels into regions outside Shandong, were quickly overcome by buying out existing firms and setting up joint venture firms with others. A portion of the funds Qingqi raised from the market through Jinan Qingqi were presumably used for those buyouts.

By 1998, the firm had established eleven finished vehicle assembly makers outside Shandong Province. In 1998, it inaugurated a four-stroke engine factory as a joint venture (firm *O*) with a privately owned firm (See Note 7 of Chapter 4).

At the same time, it established new parts-manufacturing firms and transformed existing suppliers into subsidiaries (Table 5-2). The purpose of this, according to an interview with Qingqi in 1998, was to strengthen the supplier’s quality control and

TABLE 5-2
AFFILIATED SUPPLIERS OF THE QINGQI GROUP IN THE 1990s

1993	S1 [firm <i>m</i>] (D, harnesses and other electric parts)
1994	S2 (D, equipment and tooling), S3 (F, electric parts), S4 (F, n.a.), S5 (F, n.a.), S6 (F, tooling)
1995	S7 (F, plastic injection parts), S8 (F, engine-related electric parts)
1996	S9 [firm <i>p</i>] (T, crankshafts), S10 (F, oil pumps), S11 (F, electric starters), S12 (F, molds and dies)
1997	S13 [firm <i>n</i>] (T, pistons), S14 (T, standard parts)
1998	S15 (T, cylinders), S16 (T, shock absorbers), S17 (T, meter), S18 (F, clutches)

Source: The author’s interview with Qingqi.

- Notes: 1. S1–S18 are the anonyms of Qingqi’s supplier firms. S1, S9, and S13 are firm *m*, *p*, and *n* respectively in our survey for this study.
2. Information in parentheses shows the firms’ ownership and main products. Their ownership is presented with D, T, and F, signifying D: joint-venture firms between Qingqi and a domestic firm (domestic JV), T: state-owned firms, which belonged to different administrative control lines before, whose management rights were transferred to Qingqi, and F: firms capitally affiliated with foreign firms (foreign JV).

absorb (internalize) parts technology. By carrying out direct management integration through equity participation, Qingqi may have hoped to enhance the commitment of suppliers and promote their capability upgrading. Equity participation involves an investment risk, but it is a powerful tool for building a close transaction relationship under the leadership of the maker.

2. Risk-Shifting Activities and the Decline of Supplier Commitment

(1) Mal-disciplined and Opportunistic Transactions

In reality, however, Qingqi failed to acquire commitment from the affiliated suppliers. Moral hazard on its part was the main reason.

After Qingqi made its suppliers into subsidiaries, it used them as sales outlets rather than concentrating on upgrading their capabilities, and this imposed a heavy burden upon them. This became clear around 1997, when Qingqi rushed to rapidly expand its production, whereas sales stopped growing and the stock began to balloon.

Firms *n* and *p*, which became subsidiaries in the second half of the 1990s, established motorcycle sales shops together with Qingqi. Qingqi provided motorcycles to be sold, management know-how, and advertising, while *n* and *p* supplied staff, land, and buildings. As payment for the parts purchased from the two suppliers, Qingqi sent them motorcycles to sell in the sales shops. The price of the motorcycle established for this barter exchange was allegedly higher than the market price. As of 1998, the two suppliers had received only 20 percent of the proceeds of the parts in currency. Through this, Qingqi was able to save on operating capital.

The situation of firm *m*, an affiliated joint-venture supplier that rejected the joint management of a sales shop on the ground that it was too costly, was in reality the same as that of the two firms listed above. From 1995 to 2001, more than 70 percent of the proceeds for its parts were paid in kind with motorcycles. The motorcycles were delivered to a sales shop designated unilaterally by Qingqi, and firm *m* received payments for its parts from the sales shop when motorcycles were sold. It had to collect the payment directly from the sales shop, which in fact never made payments without much resistance.

Rampant unpaid fees and coerced payment in kind accompanied by the establishment of sales shops seem to have been aggravated by the lack of a judiciary system able to regulate unfair transactions in business society as a whole.

(2) Minor-Change Competition Facilitated by Subsidiary Suppliers

In 1997, Qingqi had firm *n* invest 13 million yuan into NC machining equipment to process pistons for a new model 125 cc four-stroke engine (GS125-type). The firm initially declined, saying that it couldn't afford it, but changed its mind and decided to make the investment because the local county government and Qingqi promised to offer collateral for two thirds of the investment. Under the initial plan, Qingqi was supposed to give priority to firm *n* in purchasing parts as an effort to expedite the depreciation of the investment. However, it turned out that Qingqi's 125 cc model did not sell, and supplier *n* had no way to depreciate the investment. The supplier was obliged to provide parts to maker *N*, which launched a minor-change version of the

same GS125 with the parts. Later, maker *N*, mainly by launching minor-change versions of the models made by Qingqi and Jinan Qingqi Suzuki Motorcycle Co., Ltd. (a joint-venture maker between Suzuki and Qingqi) at a low price, had great success, thus taking the top spot in terms of units produced in China in 2000. By demanding that its subsidiary make an unaffordable investment, Qingqi ended up indirectly supporting a competitor. This is a commonly observed trend with Qingqi's suppliers, and is not a special case for supplier *n* (other examples are *l*, *m*, and *p*).

Qingqi itself encouraged the sales to its competitors. Until the mid-1990s, when it enjoyed favorable business results, it imposed restrictions on the clients of its affiliated suppliers, just like Jialing.²⁴ However, as sales stagnated, it began to actively recommend that its affiliated suppliers sell parts to competitors. The maker, as an investor, gave priority to the affiliates' business performance.

(3) Imperfections in the Chinese Market and Mal-disciplined Transactions

In the second survey, a manager of firm *m* said, "It was as if we had no partnership with Qingqi. We worked together for seven years but the partnership ended in failure. When the business was good, we had a relationship of trust but when business went bad, it disappeared." Since 2000, when the substance of Qingqi's debt was revealed, the suppliers rapidly disengaged themselves from the maker, supplying their products only on the basis of advance payments.

Until that time, however, its image as the industry's No. 1 maker was sufficient to lead the subsidiaries and other affiliated suppliers to accept, though reluctantly, the relationship. In this sense, the lack of transparency regarding corporate information in the stock market and other public trading institutions had no small influence. Suppliers were thereby forced to foot part of the bill for Qingqi's huge investment.

There were distinct "market imperfections" conducive to rampant moral hazard in China in the 1990s, when the country was undergoing a transition of its economic system. In the case dealt with in this section, it involved a lack (or manipulation) of corporate information represented by the absence of transparency in the stock market and the lack of a judiciary system to prevent unfair transactions. Given these circumstances, the maker, using opportunistic behaviors, drove the suppliers away from itself. Further, by encouraging them to supply the same types of parts to competitors, it helped to accelerate minor-change competition in the entire market, thus weakening its own position. This was one of the significant backgrounds behind the emergence of the isolated-type system of mal-discipline.

III. Building Trust with Suppliers: Zongshen

In a competitive environment where the various institutions that support the market mechanism are immature, interfirm transaction relationships do not necessarily become fluid and mal-disciplined. Rather, for this very reason, firms may emerge that establish their own rules among an exclusive group and act with discipline. A typical example of this is the supplier system of Zongshen. Although, as we examined in the preceding chapter, its system in the latter half of the 1990s was relatively close to an

isolated-type one compared with that in Japan, it also incorporated important elements of a united-type system in that it emphasized disciplined transactions and pursued the upgrading of its products jointly with suppliers.²⁵

Zongshen, which launched its business as a “pick-up parts assembler,” found the source for its development into a major maker in the consolidation of “transaction credibility” with its suppliers. Because it had very little firm-specific technological advantage and was obliged to depend upon purchases, acquiring the commitment of suppliers became key. This section examines how it developed its supplier system toward a more united-type one as a higher quality level came to be demanded of motorcycles during the 1990s.

1. The Foundation of Zongshen: Beginning from the “Pick-up Assembly” of Existing Parts

(1) Engine Business with the “Pick-up Assembly” of Parts

In 1990, Zuo Zongshen, who ran a motorcycle repair shop in Chongqing, began to assemble and sell engines. As we saw in Section I in the case of firm *h*, Zuo’s move took place in the context of a production surplus of engine parts suppliers in Chongqing and the emergence of new makers (engine users) nationwide.

Engine assemblers such as Zongshen began their businesses by assembling existing parts purchased through the OEM supplier networks of state-owned makers or independent suppliers of repair parts. It is not clear how Zuo initiated the business. Let us, therefore, look into the case of Yin Mingshan, the founder of Lifan, who launched an engine assembly firm in Chongqing in 1992, following Zongshen.

Yin, who had become a bookseller after teaching English and performing other jobs, heard that a motorcycle assembly factory run by a school in Chongqing was looking for engines. He secretly purchased sets of repair parts from the service department of Jianshe and assembled them as they were, selling the products to the factory.²⁶ The sales price of an OEM engine at the time was 1,998 yuan, vis-à-vis 1,400 yuan for the cost of a complete set of repair parts for the same engine. Jianshe, when it noticed what was happening, stopped selling repair parts to Yin, but by then he had already cultivated another channel for purchasing parts (Tian and Xun 2001, pp. 501–2).²⁷ He disassembled an existing engine and began having suppliers produce the same parts.

Zongshen seems to have developed in a similar manner. Zuo described this method as “dismounting (*chai*) and mounting (*zhuang*),” and linking this with the management of the operating cash flow, he said, “300 suppliers are 300 banks.” (ZDB 2002, pp. 7–8) As was examined in Chapter 4, payments for the assembled parts were only made after the engine was sold. Zongshen and other makers came into being one after another and rapidly developed by exploiting the rise of suppliers.

In October 1992, Zuo officially inaugurated Chongqing Zongshen Motorcycle Science and Technology Development Co., Ltd. (the core firm of the present Zongshen Group). Up until that time, it was an individual small business that was treated as equivalent to an “illegal factory,” which had been subject to clampdowns by the Chongqing municipal government. However, following the turnaround in the ideo-

logical situation triggered by Deng Xiaoping's Southern Tour Lectures early the same year, the firm came onto the front stage as a legitimate maker.

(2) Rapid Increase of Privately Owned Parts Suppliers

Many privately owned parts suppliers were established in the first half of the 1990s. Attracted by the high profits of the "era of excessive profits" as the parties longingly remember, it was possible, by laying down a sizable amount of money and recruiting key personnel from state-owned firms, to begin production within a very short period

TABLE 5-3
CAREERS OF FOUNDERS AND KEY ENGINEERS OF CHONGQING'S PRIVATELY OWNED
MOTORCYCLE MAKERS AND SUPPLIERS

Name of the Firm	Year Founded	Founder's Prior Career	Top Key Engineers Previously Employed by:
1. Maker			
Zongshen	1989	Individual (MC repairing)	State (MC maker)
Lifan	1992	School teacher, editor, individual (bookselling)	State (MC engines)
Loncin	1993	Individual (building material sales)	State (MC engines)
	1990	State (Jialing, shop-floor work) individual (sales)	Foreign (MC maker)
<i>Q</i>	1992	State (Jianshe, management)	State (chemical machinery)
<i>S</i>	1993	Individual (MC parts sales)	State (machine tools)
<i>M</i>	1994	State (gear processing, shop-floor processing)	State (MC maker)
2. Suppliers			
<i>k</i>	1982	Collective (metal sundries, management)	<i>k</i> (the same firm)
<i>i</i>	1983	State (special steel, sales)	State (chemical equipment)
<i>x</i>	1984	Village (sundries, management)	State (engines)
<i>q</i>	1986	Village (springs, management)	State (machinery)
<i>b</i>	1988	State (NC systems, engineering)	State (measurement equipment)
<i>w</i>	1991	State (shop-floor work), individual (MC parts sales)	State (machinery)
<i>r</i>	1992	Individual (MC parts sales)	State (MC maker)
<i>al</i>	1993	Individual (building materials sales)	State (machinery)
<i>v</i>	1994	Individual (steel materials sales)	State (welding)
<i>s</i>	1994	Individual (auto parts sales)	State (glass)
<i>u</i>	1994	State (distribution, sales)	State (armaments)
<i>t</i>	1997	State (medical equipment, management)	State (gear processing)

Source: Survey by the author.

Notes: 1. The symbols for the names of the firms are the same as in Appendix Table.

2. Former firms that founders and top engineers belonged to: individual = individually run businesses, state = state-owned firms, collective = collectively owned firms, village = village-run firms, foreign = foreign JV firms;

3. (): Business sphere of the former firm and specialized sphere within the former firm. MC stands for motorcycle.

4. The founders originally from individual businesses were all top manager of their respective firms. The top engineer is the person in charge of technologies in the firm, usually in the position of general engineer or factory director. Top engineers were all engineers and technical staff in their former firms.

of time. With the expertise of the engineers of state-owned firms, who were well versed in technologies, making motorcycle parts was easy.²⁸ The founders of privately owned parts suppliers in Chongqing who were surveyed for this study had expertise predominantly in sales and management from their early careers, and all of their top engineers worked as engineers or technical personnel in public firms (Table 5-3).

The development of privately owned new suppliers was crucial for engine makers such as Zongshen and Lifan. Existing suppliers nurtured by Jialing and other state-owned makers tended to be controlled by those makers, and their parts production capabilities alone were not adequate to respond to the rapid increase of demand in the first half of the 1990s. The exact number of privately owned suppliers operating in Chongqing City is not known, but according to Zuo, as of 1998, Zongshen was using about 500 suppliers, 90 percent of which were located within the city. Of them, 60 percent were privately owned suppliers, who “grew together from scratch.”

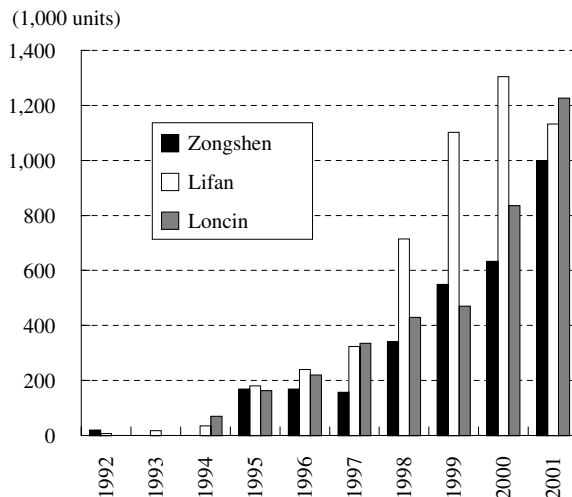
(3) Embarking on Finished Vehicle Production: From Cost to Quality

Zongshen grew by selling engines to makers in the coastal region (Figure 5-1). As of 1998, rural areas accounted for about 70 percent of the final destinations of its engines, minor urban areas such as county cities and townships for 15–20 percent, and exports for 5–10 percent.²⁹ It achieved success by adopting a low-price strategy to respond to the rural demand.

Meanwhile, it began producing finished motorcycles in 1995, initially through OEM production of other maker’s brands. In 1998, it launched production of finished vehicles under its own brand.

In undertaking full-fledged finished vehicle production under its own brand,

Fig. 5-1. Engine Production by Chongqing’s Three Privately Owned Makers



Source: ZQGNB (various years) and the author’s interviews with the makers.

Zongshen was more conscious of quality than quantity and cost. As stated earlier, its product range was narrow and it focused on a few hot-selling “base model” vehicles. These were low-price products, but Zongshen, by upgrading the quality, tried to differentiate itself from competitors.

As of the first survey, Zongshen’s outsourcing ratio was about 90 percent,³⁰ indicating very heavy dependency on suppliers. It is a typical maker, which, despite having only an extremely narrow scope of its own technologies, has developed by offsetting this disadvantage through heavy utilization of external resources. The key to upgrading the production quality of finished vehicles under its own brand was to draw forth a commitment from suppliers, make cooperative efforts, and implement careful mutual adjustments among parts in minor-change-type development. The device enabling this was the following transaction system.

2. Supplier System Based on Trust

At the end of 1998, Zongshen formed the Zongshen Group together with 66 of its major suppliers. The group consisted of 11 capital-controlled subsidiaries (the “core layer,” *hexin-ceng*), 23 suppliers with no capital affiliation but whose most important business partner was Zongshen (“close-layer,” *jinmi-ceng*) and 43 suppliers of secondary importance (“semi-close layer,” *ban-jinmi-ceng*) (*Zongshen chanye bao* [Zongshen industry news], Nov. 26, 1998). Of firms *q* through *z*, which were surveyed for this study, nine firms, with the exception of *u*, belong to the “close-layer.” In the following, I will examine, based on the findings of the first survey, the transaction system formulated by Zongshen and its suppliers in the second half of the 1990s.

(1) Emphasis on Trust and Discipline

Zongshen, with a view to promoting competition, implemented the multisourcing of parts, but the membership was stable and the purchase price was set so that a certain level of profit³¹ could be secured. Important suppliers were treated preferentially and given a chance to perform new product development.

In terms of risk management, though transaction-specific investments, for dies and molds, for example, were in principal borne by suppliers, the maker refrained from conducting multisourcing in the development phase, and multisourcing was seldom implemented before the depreciation of the dies and molds was completed. The transaction was not completely free from uncollected payments, but the maker gave priority in making payments to the important suppliers. A deposit system was also introduced to prevent dubious uncollected payments.³²

Zongshen provided little direct support to suppliers such as long-term personnel exchanges or technological guidance for the sake of upgrading their capability. However, it did extend some financial support to certain suppliers by supplying dies and molds and/or giving them priority in payments at the time of their foundation or introduction of new equipment.³³

An important element of its system of cooperative business was the cooperative quality management method under the “quality assurance system” introduced in 1997. The system was run as follows.

Once a year, a delivery contract was signed between Zongshen and each supplier, and on this occasion, a “quality assurance contract” was concluded after the two parties went through discussions on technology and exchanged a “guarantee certificate”³⁴ mainly concerning prompt response and compensation in the event of problems. Each member of Zongshen’s technical staff was assigned to cover a few suppliers, and was assigned to make regular visits to those suppliers. Referring to the “operation standard” jointly developed by Zongshen and the supplier, the staff member carried out on-site checks to ensure that operations were being carried out exactly as it specified. At the same time, he or she provided information about the new technologies for products and equipment and about other suppliers.

Zongshen, with a strong awareness of the need to strengthen its ability to make inspections and measurements for quality upgrading, demanded that suppliers introduce testing equipment. All the suppliers surveyed shared the awareness that quality upgrading was the key to competitive strength.

(2) Suppliers’ Evaluations of Zongshen

Suppliers had a high opinion of the system operated by Zongshen. In particular, the maker was highly appreciated compared to state-owned makers such as Jialing in that it offered good prices, did not impose unreasonable burden on suppliers, and implemented strict quality control.

Zongshen said that the owner himself, as the person with ultimate responsibility, made the final decision to purchase important parts. This apparently eliminated opportunistic behaviors and corruption among the personnel in charge and other unreasonable responses frequently observed in state-owned firms, leading to flexible decision-making on transaction terms by a simple phone call.

Zongshen, like other makers, had nonpayments, but its suppliers believed that these were relatively small and that its orders were large enough to offset the balance. They recognized themselves as major suppliers of the firm, and believed they were given relatively favorable treatment in receiving payments.

Importantly, each supplier perceived those uncollected payments as being equivalent to an “interest-free loan” to Zongshen, a kind of support for the maker. Their shared feeling was that as Zongshen was also taking great risks in doing business, and that its major suppliers could not avoid sharing some of the risk.

More importantly, each supplier recognized that it could “improve its ability by complying with Zongshen’s quality demands, which are quite severe.”³⁵

The suppliers recognized that quality upgrading was the only way to ensure survival, and sought to upgrade themselves in unison with Zongshen. The trust of suppliers toward Zongshen and their commitment to the system operated by the maker may also have increased the rent between themselves.

(3) Limited Commitment

However, the suppliers’ commitment to Zongshen was limited. For instance, Zuo, at the time of the survey, told the author that the close-layer suppliers’ obligation toward his company was to give top priority to its orders and respond to requests from development projects. However, most of the suppliers considered these requests to be

targets rather than obligations. As we saw in Section II of the preceding chapter, Zongshen's share in their transaction volume was not overwhelming and suppliers had no intention to sacrifice other business opportunities. Rather, they projected that Zongshen's rapid growth in sales would eventually decelerate, and realized the need to diversify their risk. For instance, Lifan and Loncin followed Zongshen's lead, forming similar groups, and three (q , t , and v) of Zongshen's five "close-layer" suppliers interviewed by the author in the first survey were also included among the "close layer" suppliers of Lifan and Loncin's groups at the same time.³⁶ The suppliers maintained their independence and participated in the system selectively, while conducting risk management on their own. This was different from the perception of "sharing a destiny" and "open commitment"³⁷ as is often seen in Japan.

3. Effect of Commitment and Rent Acquisition Increased by Trust

The supplier system run by Zongshen, compared with that of the two Japanese makers, seemed relatively close to an isolated-type one because of the limited nature of the mutual commitment. However, the transaction system was disciplined. Zongshen, along with its major suppliers, established a concrete and detailed system of competition and appraisal, managing it based on rules and promises. The suppliers, with the recognition that trust in the discipline and cooperation with Zongshen would lead to mutual upgrading, were engaged in a "quality assurance system" and other cooperative activities, while taking risks themselves. In other words, Zongshen was successful in deliberately acquiring a commitment from suppliers through confidence building, and this created rents for both sides as the competitiveness of the entire system was enhanced through the expense of the nurturing cost. Zongshen's system involved, to a large extent, significant elements of a united-type one.

One conceivable reason for the limited commitment of suppliers to Zongshen is that their transaction volume with it was not sufficient to fill their capacity. This was solely due to the fact that the competition pattern of Zongshen was of minor change type, depending heavily on common suppliers and invited engineers with homogeneous technologies, and therefore having a very small leeway for the addition of proprietary values. As such, the maker always faced the need to compete fiercely with other homogeneous competitors such as Lifan and Loncin, sharing the market with them.

IV. Summary

This chapter empirically analyzed how the isolated-type supplier system was formed and changed in China in the 1990s.

In the case of Jialing, it was found that the system spontaneously changed to an isolated-type one, as the "manufacturing capability" for localization nurtured by the united-type system became obsolete in the midst of the massive entry of private suppliers and as the maker responded to the unprecedented rise of the domestic market by pursuing a rapid expansion of production volume. At the time when the

competition pattern changed from one of “localization competition” to “mass production competition of existing models,” Jialing lacked a clear-cut strategy for pulling its suppliers and accumulating new qualitative competitiveness (e.g., new product development capability) within the system. It was lacking in such technologies as well as the leadership of strategic concepts that made it possible.

In the case of Qingqi, it was shown that the maker alienated its suppliers through unilateral opportunistic behaviors and by allowing them to supply homogeneous parts to competitors, promoted minor change competition, further endangering its own position. The problem was a lack of various institutions to guarantee market transactions, allowing rampant opportunism by state-owned firms. It seems to have been a mal-disciplined fluid situation that appeared within the transition to the market economy system.

In the case of Zongshen, the maker, by emphasizing trust and abiding by discipline among privately owned firms, drew forth an appreciable commitment from suppliers, which was linked to capability upgrading for quality improvement. However, the maker, having only limited proprietary technological knowledge and continuing minor change competition, had yet to reach a higher level of commitment.

As a whole, the above three case studies have, the author believes, adequately demonstrated the validity of the assumption presented in Chapter 1, that it is likely that makers in late-industrializing economies, in the competitive low-end market characterized by immature transactions rules and continuous price competition among many homogeneous firms, will formulate isolated-type supplier systems. With poor proprietary resources for differentiation and weak leadership, makers are unable to draw forth commitment from suppliers who gained strength in an isolated manner and continue to acquire rent through united-type systems.

Notes

- 1 The other goals include securing stability in nationally significant industries in the process of reform of state-owned enterprises, including privatization that progressed in earnest primarily with small and medium-size firms. For details, see Nolan and Jin (2002) and Sutherland (2003). Jialing was the only firm designated for the “national teams” in the motorcycle industry.
- 2 For example, firm *e*, which took part in the trial production of the CJ50, was a maker specializing in carburetors for multipurpose engines used in farming. Jialing sent more than twenty technicians to *e*, and implemented localization together with it (Interview with firm *e*).
- 3 This was the earliest test equipment that China introduced for the motorcycle business, and in 1989, Jialing was designated as one of three national-level motorcycle testing stations (ZMGB 1995, p. 68).
- 4 Its performance upgrading (in output power, torque, gasoline mileage, etc) achieved with Honda’s support was significant and its technology standards became the provisional national standards of the time.

- 5 Earlier, Jialing had been unable to mass-produce engines and the CJ50 engine was produced by the members of the “complex.”
- 6 Interview on Jan. 21, 2005 with a former Honda staff member who participated in the negotiations with Jialing in 1980s.
- 7 Three models were based on the engine and major structures of the CJ50: one with a starter system improved for cold climates (1986), a tricycle for the handicapped (1985), and one equipped with the appearance of the JH70 (ZMGB 1995, pp. 72–73). In addition, Jialing, using technological materials of the GL145 and CB125S, which were imported from Honda in the mid-1980s under the scheme of “technology and trade combination” (not the technical cooperation scheme), started the development of the JH125 in 1987 (Yamaguchi 2005, p. 270 and ZMGB 1995, p. 74). However, the model was not mass produced and the technology of the same line (XL125 with the CB125S engine) was officially introduced from Honda in 1989.
- 8 For the formation of the complex, also see Marukawa (1995).
- 9 Cooperation between firms in different administrative lines, which was rare during the period of planned economy, is called “horizontal economic association,” and its promotion was one of the government’s policies for enterprise management reform (ZHJNBW 1991, pp. 105–14).
- 10 Firms *a*, *d*, *f*, *g*, *h*, and *j*, which were interviewed for this study, were included among the thirteen members. Of them, *a*, *f*, *g*, and *h* were among the five initial members.
- 11 For example, firms *b*, *i*, and *k*.
- 12 Its production capability, which was 2,500 units per year in 1980, reached 300,000 units in 1985. During this period, the “complex” contributed to a 95 percent saving in investment and a shortening of the time to two-fifths (ZMGB 1995, p. 72). Although the method of calculation is unknown, there does not seem to be any disagreement about the effect of investment saving and time shortening from the formation of the “complex.”
- 13 Interview with Jialing and firms *f*, *g*, *h*, *i*, and *k*.
- 14 For instance, when firms *a* and *j* began to produce motorcycle parts, Jialing made payments on their behalf to unpaid wage for the employees. The municipal government of Chongqing asked Jialing to bail out the two firms, and supported it by giving it preferential treatment regarding the price of steel products and electricity, which was controlled by government at the time (Dai 1995, p. 112). This kind of bail-out function was expected in the policy promoting “horizontal economic association” for the sake of social stability at that time (Sutherland 2003, p. 64).
- 15 Suppliers other than the regular members of the “complex” were also restricted from transactions with other makers. Interviews with *b*, *i*, and *k*.
- 16 Toward the end of the 1980s, demand stagnated due to the stringent economic control surrounding the “Tian’anmen Incident.” However, 2 million units of sales in year 1990 was projected at the National Motorcycle Seventh Five-Year Plan Meeting held in 1985, when the production level was 1 million (QGSBW 2001, p. 7).
- 17 Interview with firms *h*, *a*, and *d*.
- 18 As its shortcomings, firm *g* raised the following issues: (1) unstable delivery due to its location in a mountainous region; (2) its 1970s-type equipment becoming obsolete; and (3) the lack of management flexibility and slow response to market requirements stemming from its management system as a state-owned firm.
- 19 The purpose of the restructuring was to resolve the quality problems caused by the rapid expansion of the production scale. Of the seventy suppliers with whom Jialing discontinued transactions, the reason in forty cases, involving the cancellation of as many as sixty-two

- types of parts, was quality problems (*Xi'nan Jingji Ribao* [Southwest economic daily], Jan. 21, 1999).
- 20 The government invested 20 million yuan per year for R&D fund into the six firms accepted for the first batch in 1997, to support them to become top 500 global enterprises (*Zhongguo xinxi bao* [China information], Nov. 27, 1997).
 - 21 For the characteristics and limitations of the two-stroke engine, see Note 28 of Chapter 2.
 - 22 The description that follows regarding the relationship between Qingqi and Jinan Qingqi is from He (2000). Groups' utilizing their affiliated listed company as a "factory" and using it for fund raising by controlling prices is not specific to Qingqi but seems to be widespread throughout China at present. What Qingqi did was not an extreme case considering this situation. For example, for the case of the Haier Group, one of the most famous manufacturers in China, see He (2002).
 - 23 In 2000, Jialing had stakes in five manufacturing firms including two manufacturers of motorcycle parts, and Zongshen in seven manufacturers including two parts manufacturers.
 - 24 This restriction was imposed on both firm *m*, a subsidiary from the first half of the 1990s, and firm *l*, that has no capital affiliation.
 - 25 The difference between a united and isolated type is a relative rather than absolute one. In view of the degree of the maker's leadership and suppliers' commitment, and the cohesiveness that the overall system has achieved in risk sharing and competence upgrading measures, this study recognizes even Zongshen's system as being nearer to an isolated-type one in comparison to Japanese ones. It is particularly so when compared to that of Honda, which can even be described as a "quasi-integrated" type, as it is one of the extreme forms of a united type with absolute leadership from the maker and obedience from suppliers.
 - 26 According to firm *x*, which supplied parts to firm *h* that was producing engines for Jialing, in the beginning of the 1990s, new engine makers such as Zongshen and Lifan came with trucks under the cover of darkness to purchase the same parts.
 - 27 In an interview with the author, Yin said, "When I started my business, I used suppliers developed by Jialing and Jianshe. For this, we are in their debt."
 - 28 For example, the top engineer of privately owned firm *y* was from an armaments factory, and was assigned to localize shock absorbers for Jianshe in the 1980s, where he was involved in its development. He moved to a privately owned firm in the 1990s, and quickly learned how to make exactly the same parts, because the drawing developed by the armament factory, his former employer, was "in his head." Several fellow engineers who shouldered the localization project together with him are all top engineers with privately owned parts makers at present.
 - 29 Interview with Zuo.
 - 30 At every interview with Zongshen, the author was told that their in-house production ratio was 30–35 percent. However, this number included parts purchased from "close-layer" suppliers, which should not be regarded as in-house produced parts in view of their relationship with Zongshen. Zongshen actually only manufactured a limited number of parts in-house, along with the final processing of engine cases and the production of frames (see Chapter 4). About 90 percent of Zongshen's outsourcing ratio was based on the assumption that it should be approximately the same with Lifan's (Interview with Yin Mingshan in 1998).
 - 31 See Note 23 of Chapter 4.
 - 32 Part of the payment (equivalent to about 10 percent) was deposited with Zongshen, to be used as collateral for quality problems. This was an arrangement to maintain pressure, at the same time it improved Zongshen's cash flow. The percentage of the deposit decreased in

relation to the upgrading of the appraisal received by the supplier.

- 33 For example, firms q , s , t , v , w , and z had such experiences. According to them, the financial support, though small in amount, became a source of personal indebtedness between the top managers of the firms.
- 34 The “guarantee certificate” specified concrete terms, actions, and absolute liability such as “when after-service is required on the spot, the supplier has to send its staff to the spot within fifteen minutes after the notice and present a solution within four hours.”
- 35 For example, in the first survey, firm t , which had introduced testing equipment along with Zongshen gave its impression, saying, “The more we produce, the more quality problems we face.” Until then, the firm had placed top priority on cost, but the introduction of the testing equipment revealed points to be improved, and it keenly realized that “quality upgrading has no end.” It mentioned that complying with the quality demands of the maker was the major way to develop its own firm.
- 36 At that time, Zuo said to the author, “The entire group shares the feeling that if the dragon head [Zongshen, which led the whole group] goes down, so does the rest.” In fact, however, the suppliers thought otherwise.
- 37 According to Sako (1992), in transactions in Japan, an “open commitment” based on “goodwill trust” is often observed, in which a party presumes that if requested, the greatest efforts would be made by the trading partner to improve the performance of both parties irrespective of the level or category formally requested (Sako 1992, p. 38).